

Title (en)  
HAPTIC ACTUATION SYSTEMS FOR A TOUCH SURFACE

Title (de)  
SYSTEME ZUR HAPTISCHEN BETÄTIGUNG FÜR EINE BERÜHRUNGSFLÄCHE

Title (fr)  
SYSTÈMES D'ACTIONNEMENT HAPTIQUE POUR UNE SURFACE TACTILE

Publication  
**EP 3454181 A1 20190313 (EN)**

Application  
**EP 18191844 A 20180830**

Priority  
US 201715699784 A 20170908

Abstract (en)  
One illustrative system disclosed herein includes a computing device (101) with a haptic actuation element (118) coupled to a touch surface (116, 206, 305, 402, 502) of the computing device (101) and an inner surface (205, 307, 404, 508) of a housing of the computing device. The touch surface is connected to the housing via a coupler. The haptic actuation element includes a first magnetic element (202, 302, 408, 504) coupled to one of the touch surface or the inner surface and a second magnetic element (204, 304, 410, 506) coupled to the other of the touch surface or the inner surface. The second magnetic element is positioned proximate to the first magnetic element to generate attractive or repulsive forces between the magnetic elements. The haptic actuation element also includes an electrical coil (306, 407, 510, 702, 802, 804) disposed around one or both of the first or second magnetic elements and the electrical coil can receive a current and generate an electromagnetic force between the magnetic elements based on the current to output a haptic effect to the touch surface.

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Citation (search report)  
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• [I] US 2017076885 A1 20170316 - STRYKER JAMES A [US]  
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• [I] WO 2016154752 A1 20161006 - 7725965 CANADA INC [CA]

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